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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/929,738 | 08/13/2001 | Emilio Casaccia | CISCP686 | 9020 |

26541 7590 06/21/2004
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EXAMINER

HUGHES, DEANDRA M

ART UNIT PAPER NUMBER

3663

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,738

Applicant(s)

CASACCIA ET AL.

Examiner

Deandra M Hughes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 45-53, 55-59 and 65-83 is/are allowed.
- 6) ☒ Claim(s) 54, 60-62 and 84-87 is/are rejected.
- 7) ☒ Claim(s) 63, 64 and 88 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 54, 60-62, and 84-86 are rejected under 35 U.S.C. 102(e) as being anticipated by Grochocinski (US 2002/0159132 filed Apr. 30, 2001).

With regard to claim 60, Grochocinski discloses:

- means for injecting optical pump energy (14) into a first end of a first fiber segment so that said optical pump energy counter-propagates relative to an optical signal traversing said first fiber segment and second fiber segment;
- wavelength-selective (230) means for reflecting optical energy at a frequency of said pump energy, optical energy at a frequency of said optical signal being absorbed by said wavelength-selective reflecting means (230 is a directional wavelength selector; see paragraphs [0029] and [0033] – [0035]);
- means for directing optical energy exiting a first end of said second fiber segment into a second end of said first fiber segment, for directing optical energy exiting said second end of said first fiber segment into said wavelength-selective reflecting means, and for directing optical energy reflecting from said wavelength-reflective means into said first end of said second fiber segment (230 is a

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directional wavelength selector; see paragraphs [0029] and [0033] – [0035]).

With regard to claim 61, the wavelength selective means may be a FBG (paragraph [0035]).

With regard to claim 62, 230 is a 3-port circulator.

With regard to claims 54, Grochocinski discloses:

- injecting optical pump energy (14) into a first end (from 14 to 210) of a first fiber segment (210) so that said optical pump energy counter-propagates relative to an optical signal (10) traversing said first fiber segment (210) and a second fiber segment (200);
- passing said optical signal from said second fiber segment (200) into a second end (from 230 to 210) of said first fiber segment (210);
- passing said optical pump energy (via 230) from said first fiber segment (210) into said second fiber segment (200);
- blocking optical energy at a frequency of said optical signal from entering said second fiber segment from said first fiber segment (paragraph [0034]).

With regard to claim 84, T_x of 230 is the 2nd port and R_x of 230 is the third port.

With regard to claim 85, the L_x is the 1st port and 220 is the FBG.

With regard to claim 86, paragraph [0034] discloses absorption by the FBG.

Claim Rejections - 35 USC § 103

3. Claim 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grochocinski (US 2002/0159132 filed Apr. 30, 2001) figure 3 in view of Grochocinski (US 2002/0159132 filed Apr. 30, 2001) figure 4. Figure 3 does not specifically disclose the use of an isolator. However, isolators for reflecting and/or isolating light are well known in the art. Further, figure 4 teaches the use of an isolator to block backward propagating light. It would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) to use an isolator to prevent pump energy from entering transmitter thereby protecting the transmitter from damage due to the high power pumping light.

Allowable Subject Matter

4. Claims 45-53, 55-59, and 65-83 are allowed.
5. Claims 63-64 and 88 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Objections

6. Claim 85 is objected to because of the following informalities: 'said fiber segment' does not further limit the parent claim. In the interest of compact prosecution, the Examiner examined claim 85 as if 'said fiber segment' were 'said first fiber segment'. Appropriate correction is required.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

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See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

8. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DMH
NELSON MOSKOWITZ
PRIMARY EXAMINER